NORTH CENTRAL FOREST EXPERIMENT STATION

Research Note NC-291

1992 FOLWELL AVE. ST. PAUL, MN 55108 FOREST SERVICE-U.S.D.A.

1982

FOREST AREA IN EASTERN SOUTH DAKOTA, 1980[1]

Thomas L. Castonguay
Associate Mensurationist

ABSTRACT.—In 1980 eastern South Dakota's forest resources covered 266,300 acres of land, a slight decline from the 296,600 acres reported in 1965. The area of commercial forest land also dropped from 165,400 acres to 113,600 acres. The elm-ash-locust forest type covers 40 percent of the commercial forest area.

KEY WORDS: Commercial forest land, productive-reserved, unproductive, wooded strips, shelterbelts, nonforest with trees, forest type, land use.

One out of every 157 acres in South Dakota east of the 103rd meridian is forested—a total of 266,300 acres.[2] Most of the forest area is along the Grand, Missouri, Belle Fourche, Big Sioux, Cheyenne, and Big White Rivers. An area of 113,600 acres, 43 percent of the total forest area, is suitable for producing timber crops and is classified as commercial forest land.[3] The elm-ash forest type is most prevalent, growing on 40 percent (45,400 acres) of the commercial forest area. The ponderosa pine forest type covers an additional 16 percent or 17,800 acres:

Forest type	Area 1965	1980
	(Acres)	
Ponderosa pine	24,100	17,800
Oak	7,400	4,500
Elm-ash	62,100	45,400
Cottonwood	42,000	18,500
Plains hardwoods	22,000	13,000
Nonstocked	7,800	14,400
Total	165,400	113,600

The most heavily forested county in eastern South Dakota is Shannon County, which has 20,100 acres of commercial forest—1.5 percent of the land area (Table 1).

Forest land declined in eastern South Dakota by 24,300 acres or 8 percent between 1965 and 1980. Commercial forest land decreased 31 percent during the same period.

Land use	1965	1980	Change since 1965
	(Thousand acres)		(Percent)
Forest			
Commercial	165.4	113.6	−31
Noncommercial			
Unproductive	125.2	147.4	+18
Productive-reserved	—	5.3	—
Total forest	290.6	266.3	− 8
Nonforest	41,712.5	41,441.9	− 1
Total land	42,003.1	41,708.2	− 1

[1]*This report covers the area east of the 103rd meridian. Western South Dakota will be inventoried by the Intermountain Forest and Range Experiment Station.*

[2]*The sampling error for eastern South Dakota's commercial forest area was ± 12.8 percent per million acres of commercial forest land, or ± 38 percent for the entire Unit area of 113,600 acres.*

[3]Commercial Forest Land.—*Forest land that is producing or is capable of producing crops of industrial wood and not withdrawn from timber utilization by statute or administrative regulation.*

Published 1965 areas have been adjusted to align the estimates more closely with definitions of land classification and procedures used in the 1980 survey.

Noncommercial forest land totaled 152,700 acres in 1980. The productive-reserved[4] area increased from none in 1965 to 5,300 acres in 1980. This land is located in the Badlands National Monument in Pennington and Shannon Counties. The remaining area of noncommercial forest land is unproductive forest land, too poor to grow timber crops. The unproductive forest land is concentrated in the Badlands area.

[4]*Land sufficiently productive to qualify as commercial forest land but withdrawn from timber utilization through statute or administrative designation, or through exclusive use for Christmas tree production as indicated by annual shearing.*

Not included in the forest land area, but an important resource in eastern South Dakota are the 287,800 acres of natural and planted wooded strips and shelterbelts. This area includes windbreaks around farm buildings and other structures.

This information on forest land wooded strips, and shelberbelts is part of the results of the third eastern South Dakota forest, made by the North Central Forest Experiment Station during 1979-1980. Other publications giving further details will be available soon.

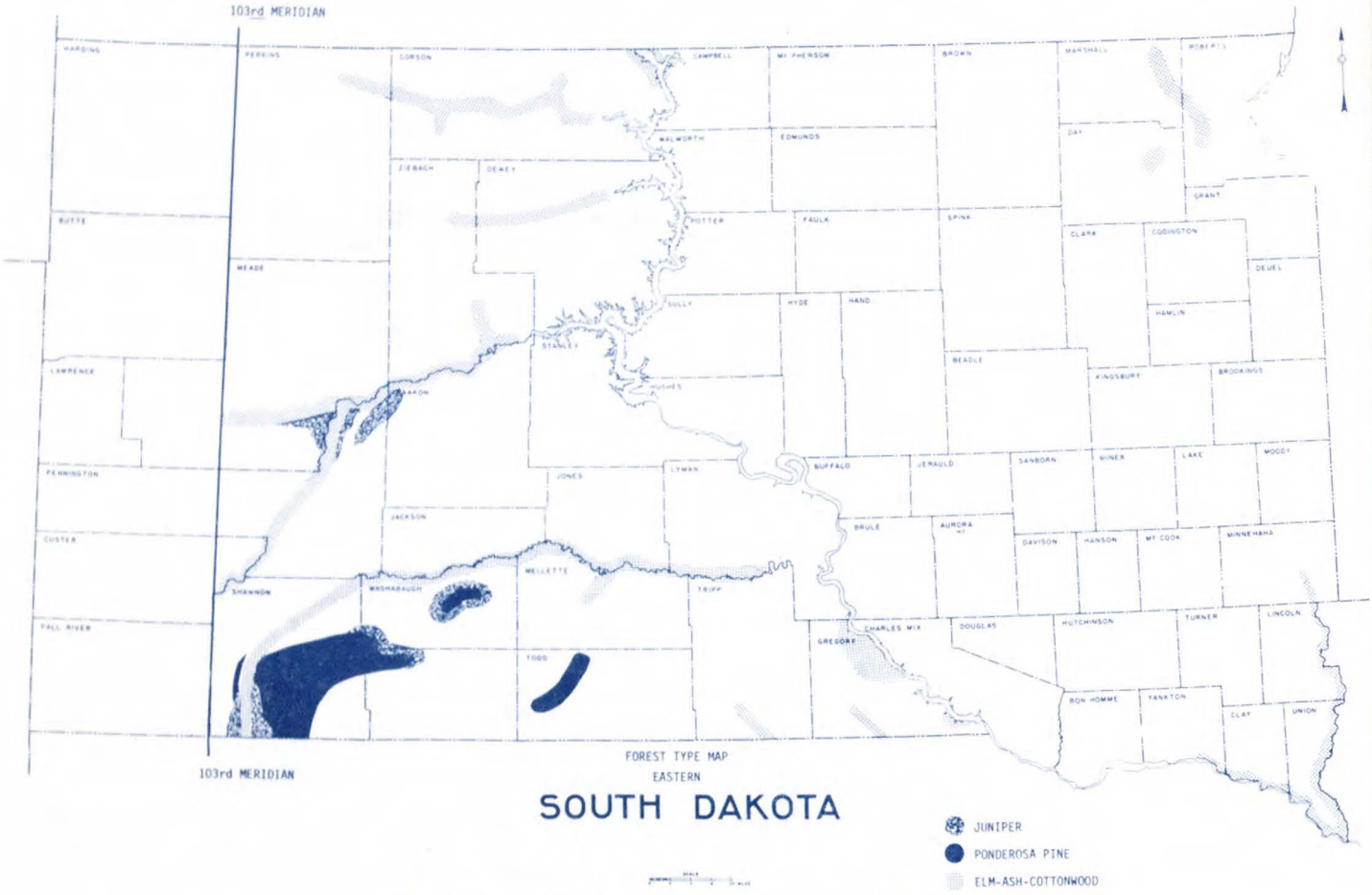

Figure 1. —*Forest area in eastern South Dakota.*

Table 1.--Area of land, forest land, and nonforest land with trees, by county, eastern South Dakota, 1980

County	All[1] land	Forest land[2]				Nonforest land with trees[6]		
		All forest	Productive reserved[3]	Unproductive[4]	Commercial[5]	All nonforest with trees	Wooded strips[7] and shelterbelts[8]	Other nonforest with trees[9]
	Thousand acres					Thousand acres		
Aurora	452.3	0.8	--	0.5	0.3	9.6	4.9	4.7
Beadle	805.5	2.5	--	1.4	1.1	6.8	4.7	2.1
Bennet	756.3	5.9	--	3.7	2.2	19.4	6.4	13.0
Bon Homme	353.3	6.4	--	2.9	3.5	10.3	5.4	4.9
Brookings	509.0	2.6	--	1.2	1.4	6.8	3.9	2.9
Brown	1,102.1	4.9	--	2.3	2.6	15.0	8.6	6.4
Brule	521.4	1.4	--	0.8	0.6	13.5	6.3	7.2
Buffalo	304.3	1.1	--	0.6	0.5	3.6	1.8	1.8
Campbell	468.2	0.3	--	0.2	0.1	3.9	3.8	0.1
Charles Mix	697.5	7.4	--	3.5	3.9	22.5	11.5	11.0
Clark	609.7	0.9	--	0.5	0.4	4.6	2.5	2.1
Clay	261.5	1.2	--	0.5	0.7	3.0	1.7	1.3
Codington	444.5	1.9	--	0.8	1.1	1.4	0.9	0.5
Corson	1,578.7	7.9	--	3.4	4.5	16.8	8.9	7.9
Custer[10]	113.3	0.9	--	0.4	0.5	1.3	0.8	0.5
Davison	278.9	1.1	--	0.5	0.6	4.3	2.5	1.8
Day	654.0	2.8	--	1.2	1.6	1.7	1.0	0.7
Deuel	403.8	1.1	--	0.5	0.6	1.6	1.0	0.6
Dewey	1,478.2	3.9	--	1.9	2.0	10.6	5.5	5.1
Douglas	277.6	0.1	--	0.1	--	1.8	0.9	0.9
Edmunds	735.6	--	--	--	--	--	--	--
Faulk	642.3	--	--	--	--	--	--	--
Grant	436.1	3.8	--	1.6	2.2	14.2	7.4	6.8
Gregory	648.6	20.5	--	13.5	7.0	40.8	20.9	19.9
Haakon	1,166.4	4.3	--	2.2	2.1	21.6	8.1	13.5
Hamlin	327.9	1.3	--	0.6	0.7	3.3	1.9	1.4
Hand	919.4	0.3	--	0.2	0.1	7.1	3.7	3.4
Hanson	277.4	0.6	--	0.3	0.3	2.5	1.3	1.2
Hughes	484.2	1.2	--	0.6	0.6	6.8	3.7	3.1
Hutchinson	522.1	1.4	--	0.7	0.7	8.6	4.6	4.0
Hyde	550.5	--	--	--	--	--	--	--
Jackson	519.2	1.2	--	0.7	0.5	4.0	1.9	2.1
Jerauld	339.3	0.6	--	0.3	0.3	2.2	1.2	1.0
Jones	621.5	2.1	--	1.2	0.9	9.1	4.4	4.7
Kingsbury	527.2	1.5	--	0.8	0.7	8.6	4.6	4.0
Lake	358.3	1.1	--	0.6	0.5	6.4	2.8	3.6
Lincoln	369.8	2.6	--	1.2	1.4	5.7	3.0	2.7
Lyman	1,074.5	3.8	--	1.9	1.9	10.6	5.1	5.5
Marshall	542.6	4.3	--	1.9	2.4	20.6	10.8	9.8
McCook	368.4	1.8	--	0.9	0.9	7.0	3.6	3.4
McPherson	734.8	0.1	--	0.1	--	3.4	1.8	1.6

County	All land[1]	Forest land[2]				Nonforest land with trees[6]		
		All forest	Productive reserved[3]	Unproductive[4]	Commercial[5]	All nonforest with trees	Wooded strips[7] and shelterbelts[8]	Other nonforest with trees[9]
Meade[10]	1,668.0	16.8	--	12.8	4.0	15.8	6.6	9.2
Mellette	838.9	10.4	--	5.7	4.7	24.3	11.6	12.7
Miner	364.7	--	--	--	--	--	.0	.0
Minnehaha	518.1	1.6	--	0.6	1.0	1.4	.9	.5
Moody	333.0	2.2	--	1.0	1.2	3.4	1.8	1.6
Pennington[10]	1,104.4	4.1	2.4	0.8	0.9	13.0	6.6	6.4
Perkins	1,846.0	2.9	--	1.6	1.3	18.1	9.4	8.7
Potter	556.1	0.1	--	--	0.1	--	.0	.0
Roberts	705.5	10.2	--	4.7	5.5	8.3	4.7	3.6
Sanborn	364.0	0.8	--	0.4	0.4	4.2	2.2	2.0
Shannon	1,340.0	59.6	2.9	36.6	20.1	47.7	12.7	35.0
Spink	963.4	2.1	--	0.9	1.2	10.3	6.2	4.1
Stanley	916.1	1.4	--	0.6	0.8	5.5	1.9	3.6
Sully	621.9	--	--	--	--	0.1	.0	.1
Todd	888.3	22.5	--	13.9	8.6	28.4	8.7	19.7
Tripp	1,035.6	3.9	--	2.0	1.9	11.5	5.3	6.2
Turner	394.8	1.6	--	0.7	0.9	3.8	1.7	2.1
Union	290.1	4.5	--	2.2	2.3	13.8	6.8	7.0
Walworth	452.3	--	--	--	--	--	.0	.0
Washabaugh	679.0	5.5	--	3.0	2.5	19.5	9.9	9.6
Yankton	331.4	6.0	--	2.5	3.5	13.1	7.5	5.6
Ziebach	1,260.4	2.5	--	1.2	1.3	17.9	9.5	8.4
All counties	41,708.2	266.3	5.3	147.4	113.6	601.1	287.8	313.3

1/ 1980 Bureau of Census estimates. Includes: Forest, nonforest with trees, and nonforest without trees.

2/ Land at least 16.7 percent stocked by forest trees of any size, or formerly having such tree cover, excludes land currently developed for nonforest use such as urban or heavily settled residential or resort areas, city parks, orchards, improved roads or improved pasture land. The minimum forest area classified was 1 acre. Classified as forest were roadside, streamside, and shelterbelt strips of timber with a crown width of at least 120 feet. Unimproved roads and trails, streams and clearings in forest areas were classed as forest if less than 120 feet wide.

3/ Land sufficiently productive to qualify as commercial forest land but withdrawn from timber utilization through statute or administrative designation, or exclusive use for Christmas tree production as indicated by annual shearing.

4/ Forest land incapable of producing 20 cubic feet per acre per year of industrial wood under natural conditions, because of adverse site conditions, i.e., sterile soils, dry climate, poor drainage, high elevation, steepness, and rockiness.

5/ Forest land producing crops of industrial wood and not withdrawn from timber utilization by statute or regulation.

6/ Areas of land with trees but with less than 16.7 percent stocking and/or are less than 120 feet wide i.e., cropland with scattered trees, improved pasture with scattered trees, wooded strips, windbreaks, and idle farmland with scattered trees.

7/ An acre or more of continuous forest land that meets the definition of commercial forest land except that it is less than 120 feet wide.

8/ A group of trees less than 120 feet wide and used for the protection of soil and cropfields.

9/ An acre or more containing at least one tree 5.0 inches in diameter, but having less than 16.7 percent stocking.

10/ That portion of the county east of the 103rd meridian.

U.S. GOVERNMENT PRINTING OFFICE:1982-665-444/156